

Matsumoto '028 teaches that adhesive (4) should be a "material which has good adhesive force with plastic layer 1 as well as with the inorganic oxide layer 2, and which does not, or only minimally, lowers the gas barrier properties." (col. 6, lines 17-19). Matsumoto discloses that suitable adhesives include polyurethane type adhesives. As acknowledged by the Examiner, Matsumoto '028 fails to disclose or suggest that *the adhesive include clay platelets* as required by claim 1.

Qian '155 discloses a composite material having a swellable layered material, such as montmorillonite clay, and an onium ion spacing/compatibilizing agent intercalated into the swellable layered material (col. 11, lines 48-65). Qian '155 further discloses that the resulting coupling agent-reacted onium ion intercalated silicate (CAO Material) be added to a matrix oligomer or matrix polymer melt to enhance one or more properties, such as strength, temperature deformation, resistance, solvent resistance, dimensional stability, ductility and/or gas impermeability (col. 7, lines 45-55).

Qian '155 discloses that the CAO Material is "suitable for the production of *sheets, films and panels*" (col. 20, lines 46-47). Qian, however, does not disclose or suggest use of the CAO Material in an adhesive for bonding adjacent layers of a laminate in the manner claimed in claim 1. The Examiner asserts that one skilled in the art would be motivated to use the CAO Material of Qian in the laminate of Matsumoto '028. Matsumoto '028, however, teaches that an inorganic oxide material be used to provide a gas barrier for the laminate. Matsumoto '028 teaches a different way of providing a gas barrier than Qian. It is therefore questionable whether one skilled in the art would in fact be motivated to combine these references. More importantly, however, even if one skilled in the art motivated to use the CAO material of Qian in the laminate of Matsumoto, the teaching of the references only supports use of the CAO material in the film layers of the laminate and *not in the adhesive used to bond the film layers of the laminate*. The teaching of the references, therefore, fails to support modification of the laminate of Matsumoto '028 in the manner claimed in claim 1. The necessary teaching of the present invention, lacking in the prior art, cannot be supplied by hindsight use of the present invention. "The references themselves must provide some teaching whereby the applicant's combination would have been obvious." In re Gorman, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991).

For at least the foregoing reasons, the invention of claim 1 is not obvious based on Matsumoto '028 and Qian '155. It is respectfully requested that the rejection of claim 1 be withdrawn.

Each of claims 2-5, 7 and 11-12 depends from claim 1. Without reference to their individual merits, for at least the foregoing reasons the rejection should be withdrawn.

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Claim 13 is an independent claim requiring a laminate having, among other things, a polyamide layer adhesively attached to a polyester layer with a solventless adhesive including clay platelets. For the reasons given above with respect to the rejection of claim 1, Matsumoto '028 and Qian '155 fail to provide the necessary teaching of an adhesive having clay platelets for attaching polyamide and polyester layers together in the manner claimed in claim 13. The invention of claim 13, therefore, is not obvious based on Matsumoto and Qian. It is respectfully requested that the rejection of claim 13 be withdrawn.

Each of claims 14-17 and 19 depends from claim 13. Again, without reference to their individual merits, for at least the foregoing reasons the rejection of these claims should be withdrawn.

→ Claim 20 is an independent claim requiring a laminated material including, among other things, a polyester layer and a polypropylene layer attached by a solventless adhesive including platelets. For the reasons given above with respect to the rejection of claim 1, Matsumoto '028 and Qian '155 fail to provide the necessary teaching of an adhesive having clay platelets for attaching polyester and polypropylene layers together in the manner claimed in claim 20. The invention of claim 20, therefore, is not obvious based on Matsumoto and Qian. It is respectfully requested that the rejection of claim 20 be withdrawn.

Each of claims 21 and 23 depends from claim 20. Again, for at least the foregoing reasons the rejection of these claims should be withdrawn.

Claims 6, 8, 9, 18 and 22 stand rejected as obvious based on Matsumoto '028, Qian '155 and U.S. Pat. No. 4,903,841 to Ohsima et al. Each of claims 6, 8 and 9 depend from claim 1. The Examiner acknowledges that Matsumoto and Qian fail to teach cast polypropylene layer, seams having facing polypropylene layers or welding of polypropylene. The Examiner asserts that Ohsima '841 provides such teaching.

As discussed above in regard to the rejection of claim 1, Matsumoto '028 and Qian '155 fail to provide teaching of a laminate having adjacent layers bonded together by a

polyurethane adhesive including clay platelets forming a gas barrier. Ohsima '841 discloses a pouch formed from a laminate having a heat sealable inner layer. Ohsima '841 does not disclose or suggest a polyurethane adhesive having clay platelets for bonding adjacent layers of a laminate. The combination of Matsumoto '028, Qian '155 and Ohsima '841 fails to provide teaching of the invention of claim 1. For at least the foregoing reasons, therefore, claims 6, 8 and 9, which depend from claim 1, are not obvious based on the asserted combination. It is respectfully requested that the rejection of claims 6, 8 and 9 be withdrawn.

Claim 18 depends from claim 13. As discussed above in regard to the rejection of claim 13, Matsumoto '028 and Qian '155 fail to provide teaching of a laminate having polyester and polyamide layers attached together by an adhesive including clay platelets. Ohsima '841 does not disclose or suggest an adhesive including clay platelets for bonding layers of a laminate together. The asserted combination of Matsumoto '028, Qian '155 and Ohsima '841, therefore, fails to provide teaching of the invention of claim 13. For at least the foregoing reasons, therefore, the invention of claim 18, which depends from claim 13, is not obvious based on the asserted combination. It is respectfully requested that the rejection of claim 18 be withdrawn.

Claim 22 depends from claim 20. As discussed above in regard to the rejection of claim 20, Matsumoto '028 and Qian '155 fail to provide teaching of a laminate having polyester and polypropylene layers attached together by an adhesive including clay platelets. Ohsima '841 does not disclose or suggest an adhesive including clay platelets for bonding adjacent layers of a laminate. The asserted combination of Matsumoto '028, Qian '155 and Ohsima '841, therefore, fails to provide teaching of the invention of claim 20. For at least the foregoing reasons, therefore, the invention of claim 22, which depends from claim 20, is not obvious based on the asserted combination. It is respectfully requested that the rejection of claim 22 be withdrawn.

Claim 10 stands rejected as obvious based on Matsumoto '028, Qian '155, U.S. Pat. No. 5,387,449 to Kunz et al. and U.S. Pat. No. 5,486,408 to Sentendrey. Claim 10 depends from claim 1 and further requires that the adhesive be a copolymer of an aliphatic diisocyanate and a diol.

Kunz '449 discloses a packaging laminate having film layers and a barrier layer. Kunz teaches that an oxide deposited on one of the film layers provides a suitable barrier layer (col. 4, lines 21 et seq.). Kunz discloses that adhesive be included in the laminate as a bonding agent and teaches that a 2 component polyurethane adhesive would be suitable (col. 6, lines 6-

11): Kunz '449 does not disclose or suggest that the polyurethane adhesive include clay platelets.

Sentendrey '408 discloses a fire retardant laminate having first and second webs of flexible material, the first web being coated with an admixture of a solvent-free adhesive and a fire retardant composition. Sentendrey discloses an admixture comprising a polyurethane adhesive formed from a mixture of a polyester and an isocyanate (col. 4, lines 8-26). Sentendrey '408 does not disclose or suggest that the polyurethane adhesive including clay platelets.

Claim 10 depends from claim 1. As discussed above in regard to the rejection of claim 1, Matsumoto '028 and Qian '155 fail to provide teaching of a laminate having adjacent layers bonded together by a polyurethane adhesive including clay platelets forming a gas barrier. Neither Kunz '449 nor Sentendrey '408 discloses a polyurethane adhesive for bonding adjacent layers of a laminate in the manner claimed in claim 1. The asserted combination of Matsumoto '028, Qian '155, Kunz '449 and Sentendrey '408, therefore, fails to provide teaching of the invention of claim 1. For at least the foregoing reasons, therefore, the invention of claim 10, which depends from claim 1, is not obvious based on the asserted combination. It is respectfully requested that the rejection of claim 10 be withdrawn.

It is respectfully submitted that the application is now in condition for allowance. If the Examiner believes that direct communication would advance the prosecution, the Examiner is invited to telephone the undersigned.

Respectfully submitted,
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Re: Patent application of Francis J. Bensus
Serial No. 09/783,795

AMENDMENTS WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

The claims have been amended as follows:

9. (Amended) A pouch according to claim [3] 8, wherein the polypropylene layers of the two laminate portions are joined by welding and wherein the bonding of adjacent layers within the laminate portions is not effected by the welding of the polypropylene.

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